

**Montana Board of Oil and Gas Conservation
Environmental Assessment**

Operator: Central Montana Resources, LLC
Well Name/Number: 71 Ranch LP – Zeus 1H-13
Location: SE SW Section 13 T11N R34E
County: Rosebud, MT; Field (or Wildcat) W/C

Air Quality

(possible concerns)

Long drilling time: No, 15 to 25 days drilling time.

Unusually deep drilling (high horsepower rig): No, single or double drilling rig to drill a horizontal well test to 4500' TVD/8750'MD in the Heath Formation.

Possible H2S gas production: Slight chance of H2S.

In/near Class I air quality area: No class I air quality area.

Air quality permit for flaring/venting (if productive) Yes, DEQ air quality permit required under 75-2-211.

Mitigation:

☒ Air quality permit (AQB review)

☐ Gas plants/pipelines available for sour gas

☐ Special equipment/procedures requirements

☐ Other: _____

Comments: No special concerns – using double or small triple rig to drill to a horizontal well test to 4500' TVD/8750'MD in the Heath Formation.

Water Quality

(possible concerns)

Salt/oil based mud: No, surface hole will be drilled with freshwater and freshwater mud system. Mainhole will be drilled with freshwater and freshwater drilling mud.

High water table: No high water table in the area of review.

Surface drainage leads to live water: No, closest drainages are unnamed ephemeral tributary drainages to West Blacktail Creek, about 1/8 of a mile to the west and 1/4 of a mile to the east from this location.

Water well contamination: No, no water wells within 1 mile and further in any direction from this location. This well will set 9 5/8" surface casing to 3500' and cement to surface. Well will be drill with freshwater mud system.

Porous/permeable soils: No, silty sandy clay soils.

Class I stream drainage: No Class I stream drainages.

Mitigation:

☒ Lined reserve pit

☒ Adequate surface casing

☐ Berms/dykes, re-routed drainage

☒ Closed mud system

☐ Off-site disposal of solids/liquids (in approved facility)

☐ Other: _____

Comments: 3500' of surface casing cemented to surface adequate to protect freshwater zones. Also, fresh water mud system to be used on surface hole.

Freshwater mud system to be used from surface to TD. Freshwater drilled cuttings and mud solids will land farmed on site with landowner approval. No concerns.

Soils/Vegetation/Land Use

(possible concerns)

Stream crossings: No stream crossings require.

High erosion potential: No, small cut, up to 5.2' and moderate fill, up to 13.8', required.

Loss of soil productivity: No, location will be restored after drilling, if nonproductive. If productive unused portion of drillsite will be reclaimed.

Unusually large wellsite: No, 300'X400' location size required.

Damage to improvements: Slight, surface use appears to be a badlands topography/rocky hilly cut with ravines.

Conflict with existing land use/values: Slight

Mitigation

☐ Avoid improvements (topographic tolerance)

☐ Exception location requested

☒ Stockpile topsoil

☐ Stream Crossing Permit (other agency review)

☒ Reclaim unused part of wellsite if productive

☐ Special construction methods to enhance reclamation

☒ Other Requires DEQ General Permit for Storm Water Discharge Associated with Construction Activity, under ARM 17.30.1102(28).

Comments: Access will be from existing county road, Edwards Road. Short road to be built from county road access into this location, about 5096'. Freshwater drilling fluids will be recycled utilizing a closed loop mud system. Freshwater drilled cuttings and mud solids will be disposed of on site. No concerns.

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: Residence, none within 1 mile in any direction from this location. The town of Ingomar, Montana is about 8.4 miles to the south from this location.

Possibility of H₂S: Slight.

Size of rig/length of drilling time: Small drilling rig/short 15 to 25 days drilling time.

Mitigation:

☒ Proper BOP equipment

☐ Topographic sound barriers

☐ H₂S contingency and/or evacuation plan

☐ Special equipment/procedures requirements

☐ Other: _____

Comments: Operational BOP and adequate surface casing should mitigate any problems. No concerns.

Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): None identified.

Proximity to recreation sites: None identified.

Creation of new access to wildlife habitat: No

Conflict with game range/refuge management: No

Threatened or endangered Species: Threatened or endangered species identified are the Black-Footed Ferret and the Interior Least Tern. Species of concern are the Greater Sage Grouse and Sprague's Pipit. NH Tracker website lists the following species of concern: Black-tailed Prairie Dog, Greater Sage Grouse, Sage Thrasher and Brewer's Sparrow.

Mitigation:

- ☐ Avoidance (topographic tolerance/exception)
- ☐ Other agency review (DFWP, federal agencies, DSL)
- ☐ Screening/fencing of pits, drillsite
- ☐ Other: _____

Comments: Private surface lands, rocky and hilly. No live water nearby. There maybe species of concern that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to what he would like done, if a species of concern is discovered at this location. The Board of Oil & Gas has no jurisdiction over private surface lands.

Historical/Cultural/Paleontological

(possible concerns)

Proximity to known sites None identified.

Mitigation

- ☐ avoidance (topographic tolerance, location exception)
- ☐ other agency review (SHPO, DSL, federal agencies)
- ☐ Other: _____

Comments: Private rocky hilly surface lands. There maybe possible historical/cultural/paleontological sites that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to his desires to preserve these sites or not, if they are found during construction of the wellsite. The Board of Oil & Gas has no jurisdiction over private surface lands.

Social/Economic

(possible concerns)

- ☐ Substantial effect on tax base
- ☐ Create demand for new governmental services
- ☐ Population increase or relocation

Comments: Well is a wildcat, until production is established no social or economic impact can be assessed.

Remarks or Special Concerns for this site

Well is a wildcat horizontal well test to 4500' TVD/8750'MD in the Heath Formation.

Summary: Evaluation of Impacts and Cumulative effects

No long term impacts expected. Some short term impacts will occur.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/ Steven Sasaki
(title:) Chief Field Inspector
Date: August 31, 2011

Other Persons Contacted:

Montana Bureau of Mines and Geology GWIC website

(Name and Agency)
Rosebud County water wells
(subject discussed)
August 31, 2011
(date)

US Fish and Wildlife, Region 6 website

(Name and Agency)
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES
MONTANA COUNTIES, Rosebud County
(subject discussed)

August 31, 2011
(date)

Montana Natural Heritage Program Website (FWP)

(Name and Agency)
Heritage State Rank= S1, S2, S3, T11N R34E
(subject discussed)

August 31, 2011
(date)

If location was inspected before permit approval:

Inspection date: _____

Inspector: _____

Others present during inspection: _____